

Amendments to the Specification

Please **replace** the paragraph beginning at page 3, line 10 as follows:

The host bus adapter 14 provides a switchable path between the host system 12 and the storage system 16. To that end, the host bus adapter 14 includes a real-time kernel 22 in the form of a processor running a real time operating system, such as the VxWorks™ operating system available from Wind River Systems, Inc., Alameda, California, although other real-time operating systems exist and can readily be employed. The real-time kernel 22 controls a lower-level Small Computer Systems Interface (SCSI) interface port driver 24 that provides real-time fail-over recovery functionality in accordance with the present principles. In particular, the lower-level port driver 24 includes logic (either in the form of dedicated circuitry or a programmable processor) for monitoring the status of individual ports 25₁ and 25₂ and associated links 26₁ and 26₂ ~~(both not shown)~~ that carry information to and from the storage system 16. To assure redundancy, each storage device 18 maintains a connection to the host bus adapter 14 through dual links and dual ports. One of the ports (e.g., 25₁) and its associated link (e.g., 26₁) serves as an alternate while the other port (e.g., 25₂) and associated link (e.g., 26₂) remain active. In the event of a failure (e.g., the failure of a previously active port and/or its associated link), the lower-level port driver 24 switches to the alternate port (and its associated link) to achieve fail-over recovery. As described in greater detail with respect to FIGS. 2 and 3, the lower-level port driver 24 thus performs the decision-making associated with the port switching (as well as the decision making concerning activating a redundant storage device and/or device controller). Accordingly, the lower level port controller 24 relieves the host system 12 of this responsibility, which reduces latency delays. The lower-level port driver 24 also serves to facilitate communications for SCSI I/O traffic through the fibre channel fabric 20.

Please **replace** the paragraph beginning at page 3, line 30 as follows:

In the illustrated embodiment of the MAN 10 in FIG. 1, the host bus adapter 14 connects to the fibre channel fabric 20 via dual connections (i.e. two links 30₁ and 30₂ and two ports 28₁ and 28₂, respectively, per channel). The storage system 18 likewise connects to the fibre channel fabric 20 via two connections (ports 25₁ and 25₂) per RAID chassis. In this way, either of the two host ports can communicate with either of two RAID controllers (not shown) per RAID chassis. This allows for independent fail-over between the ports and the two RAID controllers. Each host port can use either RAID controller in a RAID chassis. In the event of a failure, host port switching can occur without switching RAID controllers and RAID controller switching can occur without switching host ports.